

WHAT IS CLAIMED IS:

1. A self-luminous device wherein a gate electrode of a current controlling TFT formed on an insulator overlaps with a separate semiconductor film with a gate insulating film sandwiched therebetween.

2. A self-luminous device according to claim 1, wherein the separate semiconductor film is electrically connected to a power supply line.

3. A self-luminous device according to claim 1, wherein a source region of the current controlling TFT and the separate semiconductor film are formed on the insulator, and a semiconductor film is used to form the source region of the current controlling TFT and the separate semiconductor film but they are independent of each other.

4. A self-luminous device according to claim 1, wherein the source region and the separate semiconductor film are electrically connected to their respective power supply lines.

5. A self-luminous device according to claim 1, wherein the separate semiconductor film has a region that overlaps with the gate electrode with the gate insulating film sandwiched therebetween, and the region overlapping with the gate electrode takes up 20 60% or more of the separate semiconductor film.

6. A self-luminous device according to claim 1, wherein the separate semiconductor film overlaps with the power supply line with the insulating film sandwiched

therebetween.

7. A self-luminous device according to claim 1, wherein the separate semiconductor film has a region that overlaps with the power supply line with the insulating film sandwiched therebetween, and the region overlapping with the power supply line takes up 60% or more of the separate semiconductor film.

8. A self-luminous device according to claim 1, wherein the gate electrode overlaps with the power supply line with the insulating film sandwiched therebetween.

9. A self-luminous device according to claim 1, wherein the aperture ratio of a pixel having a pitch of 100 to 140 μm is 50 to 80%.

10. An electronic device having said self-luminous device according to claim 1 wherein said electronic device is selected from the group consisting of a personal computer, a video camera, a goggle type display, a portable computer, a DVD and an EL display.

11. An electronic device having at least one self-light emitting device comprising:
20 a first semiconductor island formed on an insulating surface, said first semiconductor island having at least first and second impurity regions and a channel region therebetween;
a second semiconductor island formed on said insulating surface, said second semiconductor island separated from said first semiconductor island;
an insulating film formed on said first semiconductor island and said second semiconductor island;

0 a gate electrode formed over said first semiconductor island with said insulating film
interposed therebetween;

1 a capacitor forming electrode formed over said second semiconductor island with
2 said insulating film interposed therebetween, wherein said gate electrode and said capacitor
3 forming electrode are formed in a same conductive layer and electrically connected to each
4 other; and
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6 a light emitting element comprising a cathode, an anode and a light emitting material
7 interposed between said cathode and said anode wherein one of said first and second impurity
8 regions is electrically connected to one of said cathode and said anode.

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10 12. The electronic device according to claim 11 wherein said electronic device is
11 selected from the group consisting of a cellular phone, a personal computer, a video camera, a
12 goggle type display, a portable computer, a DVD and an EL display.

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14 13. The electronic device according to claim 11 further comprising a switching thin
15 film transistor having a drain region electrically connected to said gate electrode.

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17 14. An electronic device having at least one self-light emitting device comprising:
18 a first semiconductor island formed on an insulating surface, said first semiconductor
19 island having at least first and second impurity regions and a channel region therebetween;
20 a second semiconductor island formed on said insulating surface, said second
semiconductor island separated from said first semiconductor island;
an insulating film formed on said first semiconductor island and said second
semiconductor island;

10 a gate electrode formed over said first semiconductor island with said insulating film interposed therebetween;

5 a capacitor forming electrode formed over said second semiconductor island with said insulating film interposed therebetween wherein said gate electrode and said capacitor forming electrode are formed in a same conductive layer and electrically connected to each other;

15 a capacitor having said capacitor forming electrode and said second semiconductor island with said insulating film interposed therebetween;

20 an interlayer insulating film formed over said capacitor forming electrode;

25 a current supply line formed over said interlayer insulating film wherein said current supply line is electrically connected to one of said first and second impurity regions of the first semiconductor island; and

30 a light emitting element comprising a cathode, an anode and a light emitting material interposed between said cathode and said anode wherein the other one of said first and second impurity regions is electrically connected to one of said cathode and said anode,

35 wherein said second semiconductor island is covered by said current supply line.

15. The electronic device according to claim 14 wherein said electronic device is selected from the group consisting of a cellular phone, a personal computer, a video camera, a 20 goggle type display, a portable computer, a DVD and an EL display.

16. The electronic device according to claim 14 further comprising a switching thin film transistor having a drain region electrically connected to said gate electrode.

17. The electronic device according to claim 14 wherein said first and second semiconductor islands comprise crystalline silicon.

5 18. The electronic device according to claim 14 further comprising a driver circuit formed on said insulating surface, said driver circuit comprising thin film transistors having a crystalline channel region.

19. An electronic device having at least one self-light emitting device comprising:

10 a gate wiring formed over a substrate;;

14 a first switching element formed over said substrate and including at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to said gate wiring;

15 a source wiring extending across said gate wiring ;

19 a second switching element formed over said substrate and including at least one second thin film transistor, said second thin film transistor comprising a semiconductor island having at least first and second impurity regions and a channel region, a gate insulating film formed on said semiconductor island and a gate electrode formed on said gate insulating film, wherein said gate electrode is electrically connected to said source wiring through at least said first switching element;

20 a current supply line extending across said gate wiring and electrically connected to one of said first and second impurity regions of the second thin film transistor;

25 a capacitor electrically connected between said gate electrode of the second thin film transistor and said current supply line wherein said capacitor is covered by said

current supply line; and

a light emitting element comprising a cathode, an anode and a light emitting material interposed between said cathode and said anode wherein the other one of said first and second impurity regions is electrically connected to one of said cathode and said anode.

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20. The electronic device according to claim 19 wherein said electronic device is selected from the group consisting of a cellular phone, a personal computer, a video camera, a goggle type display, a portable computer, a DVD and an EL display.

10 21. The electronic device according to claim 19 wherein said semiconductor island comprises crystalline silicon.

15 22. The electronic device according to claim 19 further comprising a driver circuit formed over said substrate, said driver circuit comprising thin film transistors having a crystalline channel region.

23. An electronic device having at least one self-light emitting device comprising:

a gate wiring formed over a substrate;;

a first switching element formed over said substrate and including at least 20 one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to said gate wiring;

a source wiring extending across said gate wiring ;

a second switching element formed over said substrate and including at least 20 one second thin film transistor, said second thin film transistor comprising a semiconductor

island having at least first and second impurity regions and a channel region, a gate insulating film formed on said semiconductor island and a gate electrode formed on said gate insulating film, wherein said gate electrode is electrically connected to said source wiring through at least said first switching element;

5 a current supply line extending across said gate wiring and electrically connected to one of said first and second impurity regions of the second thin film transistor;

a capacitor having a first electrode comprising a same material as said semiconductor island, a second electrode comprising a same material as and electrically connected to said gate electrode of the second thin film transistor and an insulating film comprising a same material as said gate insulating film between said first and second gate electrodes wherein said capacitor is located below said current supply line; and

a light emitting element comprising a cathode, an anode and a light emitting material interposed between said cathode and said anode wherein the other one of said first and second impurity regions is electrically connected to one of said cathode and said anode,

wherein said first electrode is separated from said semiconductor island and is electrically connected to said current supply line.

24. The electronic device according to claim 23 wherein said electronic device is selected from the group consisting of a cellular phone, a personal computer, a video camera, a 20 goggle type display, a portable computer, a DVD and an EL display.

25. The electronic device according to claim 23 wherein said semiconductor island comprises crystalline silicon.

26. The electronic device according to claim 23 further comprising a driver circuit formed over said substrate, said driver circuit comprising thin film transistors having a crystalline channel region.